

REMARKS

In view of the foregoing amendments and following remarks, reconsideration and allowance of this patent application is earnestly solicited.

Claims 1 and 3-15 have been examined and stand rejected. Claim 2 was previously canceled. Claims 1, 4-6, 8 and 12 have been amended. Thus, claims 1 and 3-15 are pending in this application. No new matter has been introduced.

In the Office Action, the Examiner rejected claims 1 and 3-7 under 35 U.S.C. §103(a) as being obvious over the previously-cited Leiber reference in view of newly-cited Porter U.S. Patent No. 6,205,798. The Examiner also rejected claims 8-15 under 35 U.S.C. §103(a) as being obvious over Leiber in view of the previously-cited Wrede reference. Applicants respectfully traverse these claim rejections for the reasons set forth hereinafter.

Leiber, the principal reference cited by the Examiner, describes embodiments of a conventional multi-circuit hydraulic vehicle brake system having a central pressure sensor for monitoring and diagnosing a plurality of system functions. Particularly, the magnetic valves in the brake circuits are monitored to identify functional issues using pre-programmed test cycles during which various sets of the valves are temporarily closed. With the aid of the pressure sensor, if a brake circuit failure occurs, the corresponding magnetic valves can be triggered to block off the defective circuit. The Examiner acknowledges that Leiber does not disclose momentarily shutting off all load circuits simultaneously. The Examiner relies on the newly-cited Porter reference to cure this acknowledged deficiency of Leiber.

Porter, cited in combination with Leiber, describes embodiments of a method for automatically detecting leaks between the high and low-pressure sides of a refrigeration system. By creating a large pressure difference between the high and low-pressure sides, the operational condition of valves that connect the two pressure sides can be determined by measuring and

comparing system pressures at different times. The Examiner relies on Porter for its disclosure of simultaneously and momentarily closing all opened valves while measuring for a change in suction pressure in the refrigeration system to identify leaks between the high and low-pressure sides.

Wrede, also cited by the Examiner in combination with Leiber, describes embodiments of an electronic brake system capable of self-testing having large degree sensors and signal generators used to measure signals for calculating a normalized pressure drop by a control unit. The Examiner relies upon Wrede primarily for its disclosure of a compressed air supply part that includes a compressor.

Leiber, whether taken alone or combined with any of the other references cited by the Examiner, does not describe, teach or suggest Applicants' claimed method and system. In addition to the fact that Leiber, unlike Applicants' claimed invention, (i) is concerned not with compressed air systems but with hydraulic systems (*see, e.g.*, Leiber, Fig. 1, filled triangle in pressure generating device 2; col. 1, lines 29-43), and (ii) does not teach or suggest momentarily shutting off the load circuits simultaneously in parallel, there are further fundamental distinctions between Leiber and Applicants' claimed method and system that prevent Leiber from teaching or suggesting Applicants' claimed invention and that warrant the withdrawal of the claim rejections.

Unlike Applicants' claimed invention, Leiber is concerned with detecting malfunctions specifically in the magnetic valves based on pressure gradient changes during temporary shut down (*see* Leiber col. 3, line 38 to col. 4, line 28). Consequently, Leiber does not describe the detection of compressed air load circuit failures outside of the valves (*e.g.*, due to line breaks) based on venting flows (beyond the extremely general statement that, with the aid of

the pressure sensor, the valves can be triggered to block off a defective circuit -- *see* Leiber, col. 4, lines 40-45).

Furthermore, unlike Applicants' claimed invention, with Leiber the detection of circuit problems is not accomplished entirely during valve shut-off. Rather, Leiber determines whether or not the magnetic valves are "intact" only after the valves have been reopened and pressure levels have been tested against threshold levels (*see* Leiber col. 4, lines 21-24).

Further still, Leiber does not describe, teach or suggest monitoring the lines to the load circuits. Rather, Leiber's focus is on monitoring the brake lines (*see* Leiber col. 2, lines 19-22) of the brake system normally not under pressure. In Applicants' claimed invention, the pressure in the lines to the compressed air load circuits are monitored, which are supply lines always under pressure (*see* para. [0024] of Applicants' published patent application); they are at least partly connected to compressed air reservoirs to supply the load circuits (*see id.* at paras. [0014] and [0015]).

Moreover, in Leiber, the circuits are not shut off. As valves 10 and 11 are 3/2 valves, Leiber connects the respective circuit, normally not under pressure, to the pressure generating device 2 at the same time a brake amplifier 1 is closed off from the circuits (*see* Leiber col. 2, lines 29-34). So, Leiber isolates the brake amplifier; while, in stark contrast, in Applicants' claimed invention it is the load circuits that are isolated.

As to the asserted combination of Porter with Leiber, in addition to the fact that Porter relates to a refrigeration system and not to a vehicle pneumatic brake system and, as such, is non-analogous art, it is submitted that one of ordinary skill in the art would not be inclined to combine Porter with Leiber as such combination does not yield Applicants' claimed invention. Porter does not overcome the severe deficiencies of Leiber (and *vice-versa*).

According to Porter, in order to check for refrigerant leaks between the high and low-pressure sides of a refrigeration system, the high and low-pressure sides are isolated by turning off the compressor and simultaneously closing all valves located therebetween (*see* Porter col. 4, lines 18-22; col. 13, lines 9-15). The valves must all be closed at the same time given that they are all located between the high and low-pressure sides. If one were left open, there would still be a connection between the high-side and the low-side, and measurement for leakage would not be possible. That is, Leiber teaches that all the valves must be closed in order to isolate one circuit only. In contrast, in Applicants' claimed invention, each valve isolates a different one of multiple load circuits (*see* Fig.1 and para. [0010] of Applicants' published patent application). Thus, while it can be said, in a vacuum and out of context, that Porter "closes all valves at the same time", this does not, as incorrectly suggested by the Examiner on page 3 of the Office Action, describe, teach or suggest Applicants' claimed invention, which is concerned with shutting off not one but multiple different load circuits.

Furthermore, Porter teaches checking for valve leakage from the high to low-pressure sides that would lead to a pressure increase at the low-pressure side (*see* Porter col. 13, lines 15-22). In other words, Porter describes a testing method for checking the function (in particular, tightness) of valves. In contrast, Applicants' claimed invention is concerned with identifying external leaks from the load circuits to atmosphere (*see* para. [0024] of Applicants' published application), which would lead to a pressure drop (*see id.* at para. [0027]). So, Porter does not describe, teach or suggest a "similar circuit testing method" as alleged by the Examiner on page 3 of the Office Action.

Additionally, neither Leiber nor Porter describe, teach or suggest monitoring circuits continuously. Leiber and Porter are concerned with performing specific test cycles (by establishing certain pressure conditions) out of (or interrupting) the normal operation (Leiber at

standstill: col. 4, lines 51-59; Porter at “pretrip”: col. 1, lines 22-29). In contrast, in accordance with Applicants’ claimed invention, the compressed air load circuits are monitored continuously during normal operation of the vehicle. The detection of a leak is triggered by the leak itself (*see* para. [0032] of Applicants’ published application) and is immediate.

The presence of Wrede in the mix of cited references adds nothing. The deficiencies of Leiber and Porter discussed above are clearly not overcome by Wrede, which was cited by the Examiner for its general disclosure of a compressed air supply part that includes a compressor.

In line with all the foregoing, Applicants have presented clarifying amendments to independent claims 1 and 8. No new matter has been introduced.

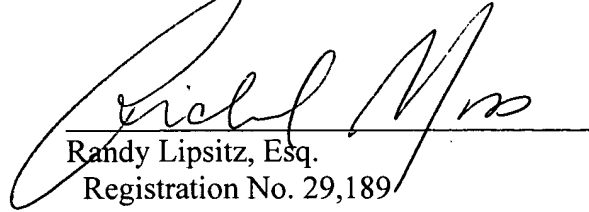
Additionally, Applicants have amended claims 1, 4-6 and 8 to clarify that the step of shutting off defective and/or failed compressed air load circuits need not be permanent. Applicants respectfully submit that earlier amendments to these claims requiring permanent shutoff unnecessarily limited the claims.

For the reasons set forth above, and in Applicants’ previous submissions, it is submitted that independent claims 1 and 8 are allowable. Notice to this effect is respectfully solicited. It is further submitted that claims 3-7 and 9-15 are also allowable by virtue of their respective dependencies from claims 1 and 8, as well as for the additional features and steps recited therein. Notice to this effect is also respectfully requested.

The Examiner is invited to contact Applicants’ undersigned attorneys at the telephone number set forth below if it will advance the prosecution of this case.

No fee is believed due with this Reply. Authorization is hereby given to charge any fee deficiency to Deposit Account No. 50-0540.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Randy Lipsitz", is written over a horizontal line.

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